

## Dr Andrew Ewer MB ChB, MD, MRCP, FRCPCH

Reader in Neonatal Paediatrics

Reproduction, Genes and Development

### Contact details

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### About

Andrew Ewer is Reader in Neonatal Paediatrics based at Birmingham Women's Hospital.

Andrew has published research papers in scientific journals as well as reviews and an undergraduate problem-based learning book in the field of Paediatrics and Neonatology. He has received grants from NIHR Health Technology Assessment and Action Medical Research.

He recently led the PulseOx trial investigating pulse oximetry as a screening test for congenital heart defects in newborn babies. As a result of this work he was nominated for the Charles Beale Founder's Award for Excellence in Policy Development in May 2012. The study is to be included in the 2012 NIHR Evaluation, Trials and Studies annual report and as a Research Highlight in the 2012 NIHR annual report.

### Qualifications

- MD – University of Birmingham 1998
- Fellowship of Royal College of Paediatrics and Child Health 1996
- Membership to the Royal College of Physicians 1989
- MB ChB – University of Birmingham 1985

### Biography

Andrew Ewer qualified with a MB ChB in Medicine and Surgery from the University of Birmingham in 1985. He trained in Paediatrics in Birmingham and Sheffield and gained MRCP in 1989. He won a Sheldon Research Training Fellowship in 1991 and investigated gastric emptying and gastro-oesophageal reflux in preterm infants. Following this, in 1994 he won a Fellowship to Monash Medical Centre in Melbourne, Australia and continued his clinical training and research there. He returned to the Birmingham as Lecturer in Neonatal Paediatrics and was awarded FRCPCH in 1997 and an MD degree from the University of Birmingham in 1998. He was appointed as Senior Research Fellow and Honorary Consultant Neonatologist at Birmingham Women's Hospital, Senior Lecturer in 2009 and Reader in Neonatal Paediatrics in 2012.

His research interests include: neonatal gastrointestinal function (particularly gastric function and necrotising enterocolitis), neonatal cardiology and clinical trials.

He is an invited referee for 18 peer-reviewed journals and is a medical advisor to the charity BLISS. He is a member of the medical advisory panel of the British Association of Perinatal Medicine and a member of two national clinical studies groups; the Intrapartum Care CSG and the MCRN/AMR CSG. He is a member of the DMC for 2 national clinical trials.

In 2011 he was invited as an advisor to the United States Health Secretary's Advisory Committee on Heritable Disorders in Newborns and Children workgroup on Screening for Critical Congenital Cyanotic Heart Disease. Screening was subsequently endorsed by the US Health Secretary and is being implemented as national policy.

### Teaching

#### Teaching Programmes

- MB ChB.
- Year 2 – Module on temperature regulation in newborns.
- Year 5 – Coordinator of Neonatology teaching
- Examiner for final year Paediatrics

### Postgraduate supervision

Andrew has supervised PhD and MD postgraduate students in laboratory and clinical research.

### Research

#### RESEARCH THEMES

Neonatal gastrointestinal function (particularly gastric function and necrotising enterocolitis), neonatal cardiology and clinical trials.

#### RESEARCH ACTIVITY

## Gastrointestinal function in preterm infants.

### i) Gastric emptying.

Using a novel ultrasonic technique Andrew investigated the effect of feed type on gastric emptying rates. While in Melbourne he investigated the effect of breast milk fortifier on gastric emptying.

### ii) Gastro-oesophageal reflux.

He also investigated the relationship between delayed gastric emptying and gastro-oesophageal reflux using techniques developed within the department. I also supervised a project investigating methods of detecting reflux and the effect of body position on the severity of reflux.

### Necrotising enterocolitis

Andrew has collaborated with Professor Janice Marshall in the Department of Physiology at Birmingham University over a number of years and developed a unique animal model for necrotising enterocolitis and devised a research protocol and grant applications in order to investigate the role of inflammatory mediators (particularly platelet-activating factor) in the aetiology of the disease. He co-supervised 2 PhD students who were involved in both *in-vivo* and *in-vitro* work using this model.

In a recent collaboration with a team from Bristol University he have also been investigating faecal volatile organic compounds as a biomarker for NEC. This work successfully secured funding through an Action Medical Research project grant to undertake a multicentre trial.

### Neonatal cardiology

In collaboration with the Cardiology Unit at Birmingham Children's Hospital Andrew has supervised four Research Fellows in Neonatal Cardiology. They have investigated postnatal outcomes for babies diagnosed with congenital heart disease and developed the technique of tissue Doppler assessment of neonatal myocardial function.

Recently, in collaboration with the Clinical Trials Unit at Birmingham University he secured HTA funding and undertook a multicentre trial examining the use of pulse oximetry as a screening procedure to detect congenital heart disease in newborn babies.

### Clinical trials

Andrew is PI on a number of national clinical trials and is actively involved in supporting local Obstetric and Fetal Medicine trials from a neonatal perspective.

## Other activities

Neonatal Paediatrician on the Regional Neonatal Unit at Birmingham Women's Hospital delivering all aspects of clinical care to babies between birth and discharge from hospital.

## Publications

Publications in last 3 years:

Powell R, Pattison HM, Bhojar A, Furnston AT, Middleton LJ, Daniels JP, Ewer AK. Pulse oximetry as a screening test for congenital heart defects in newborn infants: an evaluation of acceptability to mothers. **Arch Dis Child** 2012; Epub 2012 May 18.

Thangaratnam S, Brown K, Zamora J, Khan KS, Ewer AK. Pulse oximetry screening for critical congenital heart defects (CCHD) in asymptomatic newborns: a systematic review and meta-analysis. **Lancet** 2012;379:2459-2464. Epub 2012 May 2.

Ewer AK, Furnston AT, Middleton LJ, Deeks JJ, Daniels JP, Pattison HM, Powell R, Roberts TE, Barton P, Auguste P, Bhojar A, Thangaratnam S, Tonks AM, Satodia P, Deshpande S, Kumararatne B, Sivakumar S, Mupanemunda R, Khan KS. Pulse oximetry as a screening test for congenital heart defects in newborn infants: a test accuracy study with evaluation of acceptability and cost-effectiveness. **Health Technol Assess** 2012 Jan;16(2):1-184.

Roberts TE, Barton P, Auguste P, Middleton LJ, Furnston AT, Ewer AK. Pulse oximetry as a screening test for congenital heart disease in newborn infants: a cost effectiveness analysis. **Arch Dis Child** 2012;97:221-226. Epub 2012 Jan 13.

Ewer AK, Middleton LJ, Furnston AT, Bhojar A, Daniels JP, Thangaratnam S, Deeks JJ, Khan KS. Pulse oximetry as a screening test for congenital heart defects in newborn infants (PulseOx): a test accuracy study. **Lancet** 2011;378:785-94. Epub 2011 Aug 4.

Rasiah SV, Ewer AK, Miller P, Kilby MD. (2011) Prenatal diagnosis, management and outcome of fetal dysrhythmia: A tertiary fetal medicine centre experience over an eight year period. **Fetal Diagnosis and Therapy**. 2011; 30(2):122-7. Epub 2011 Jun 23.

Parikh R, Hussain T, Holder G, Bhojar A, Ewer AK. (2010) Maternal methadone therapy increases QTc interval in newborn infants. **Arch Dis Child Fetal Neonatal Ed** 2011;96:F141-143.

Negrine RJS, Chikermane A, Wright JGC, Ewer AK. (2010) Assessment of myocardial function in neonates using Tissue Doppler Imaging. **Arch Dis Child Fetal Neonatal Ed** 2012;97 F304-F306. Epub Oct 2010.

Aralikatti AKV, Mitra A, Denniston AKO, Haque MS, Ewer AK, Butler L. (2009) Is ethnicity a risk factor for severe retinopathy of prematurity? **Arch Dis Child Fetal Neonatal Ed** 2010;95:F174-F176.

Garner CE, Ewer AK, Elasooud K, Power F, Greenwood R, Ratcliffe NM, de Lacy Costello B, Probert CS. (2009) Analysis of faecal volatile organic compounds in preterm infants who develop necrotising enterocolitis: a pilot study. **Journal of Pediatric Gastroenterology and Nutrition** 49:559-565.

Tower C, Ong SSC, Ewer AK, Khan K, Kilby MD. (2008) Prognosis for the fetus with isolated gastroschisis and bowel dilatation: a systematic review. **Arch Dis Child** 2009;94:F268-74.

